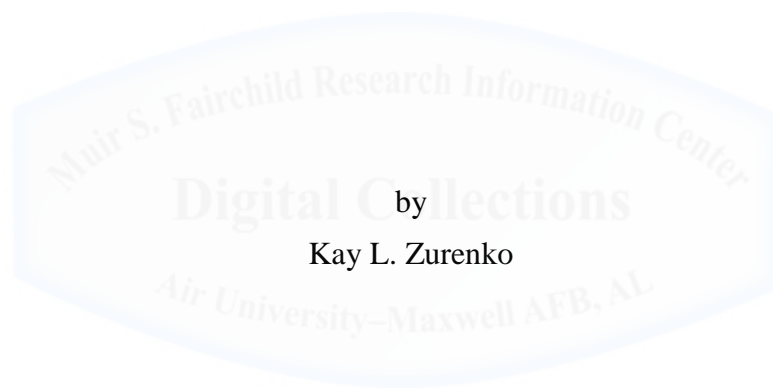


AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

ESCALATING AIR FORCE HEALTHCARE COSTS:
REFORMING THE AIR FORCE MEDICAL SERVICE THROUGH
PERFORMANCE-BASED INCENTIVES



by
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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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Contents

	<i>Page</i>
DISCLAIMER	ii
LIST OF FIGURES	iv
LIST OF TABLES	v
PREFACE	vi
ABSTRACT.....	vii
INTRODUCTION.....	1
BACKGROUND	4
Dollars and “Sense”—The DoD Healthcare Cost Dilemma.....	4
Legislation to Counter Healthcare Cost Deficits	4
Monetary and Non-Monetary Incentives	5
How Does US Healthcare Measure Up?.....	7
A Different Perspective.....	8
Incentive Model Successes	9
THE PROBLEM.....	11
Air Force Medical Service Strategic Vision and Priorities.....	11
Air Force Medical Service Goals.....	12
Contributing Factors	12
Family Health Initiative	12
Economics—Simply Put: Supply and Demand	15
Patient Demographics	15
THE SOLUTION.....	17
Test and Evaluate	17
Metrics and Targets.....	17
Results	19
CONCLUSION.....	29
Recommendations.....	31
Summary	32
BIBLIOGRAPHY	37

List of Figures

	<i>Page</i>
<i>Figure 1. Quadruple Aim</i>	<i>2</i>
<i>Figure 2. FHI: Building the Medical-Home</i>	<i>13</i>
<i>Figure 3. Age Distribution of the US</i>	<i>16</i>
<i>Figure 4. AFMS Metrics and Goals</i>	<i>18</i>
<i>Figure 5A Patient Satisfaction (by Quarter)</i>	<i>21</i>
<i>Figure 5B Patient Satisfaction (by Demographic Region)</i>	<i>22</i>
<i>Figure 6A. Continuity of Care (by Quarter)</i>	<i>23</i>
<i>Figure 6B. Continuity of Care (by Demographic Region)</i>	<i>24</i>
<i>Figure 7A. Emergency Department-Urgent Care Center (ED-UCC) (by Quarter)</i>	<i>25</i>
<i>Figure 7B. ED-UCC (by Demographic Region)</i>	<i>26</i>
<i>Figure 8A. Healthcare Effectiveness and Data Information Set (HEDIS) (by Quarter)</i>	<i>27</i>
<i>Figure 8B. HEDIS (by Demographic Region)</i>	<i>28</i>

List of Tables

	<i>Page</i>
Table 1. US Health System Ranking	7
Table 2. AFMS Metrics and Goals	18



Preface

Little did I know while attending the 2010 Air Force Medical Service (AFMS) Resource Management Conference I would have the opportunity to attend a briefing for the very topic I had just selected from the Air University research website two weeks prior. The briefing was provided by the Air Force Medical Operations Agency (AFMOA) Commander, Brig Gen Mark Ediger. This presentation, *Continuous Process Improvement in Air Force Health Care*, could not have been timelier and aligned perfectly with my research topic related to AFMS Performance-Based Incentives. After listening to the briefing, I knew the selected topic was one of high interest to the Military Health System and the Department of Defense (DoD).

As an Air Force auditor for nearly 20 years, currently performing healthcare audits, I have seen firsthand the various challenges faced by the AFMS in the areas of productivity, funding, manpower, and staff retention. All these items directly impact AFMS effectiveness and its ability to maintain a medically-ready resilient force, retain highly-trained medical providers, and strive for a healthier population. All these issues are evident while trying to balance medical care at an efficient, affordable, and sustainable level.

I would like to thank Dr. Michael Dinneen, Brig Gen (Dr.) Mark Ediger, and members of the AFMOA staff (particularly, Lt Col Stephen Sales and Maj Angela Blackwell) for supporting my research endeavors and providing valuable assistance. Additionally, I would not have had the energy to tackle this research project if it were not for my husband and two sons. Their patience, love, and adept cooking skills kept us all fed and moving forward. Furthermore, I would like to thank my research instructors, Drs. Richard Smith and Stephen Schwalbe, for their positive influence, as well as my classmates for their encouragement and beneficial feedback.

Abstract

This research topic was generated due to recent Congressional interest on healthcare reform and the ever-increasing amount of funds expended by the DoD for the Defense Health Program. The private sector has experienced efficiencies and successes resulting from performance-based incentives in the areas of increased patient satisfaction, improved access and continuity of care, better patient health outcomes, and decreased visits to emergency departments (ED) and urgent care centers (UCC). Therefore, the AFMS believes similar efficiencies and successes can occur in the military healthcare setting resulting in overall decreased per-capita medical costs.

This research will critically analyze whether implementing a performance-based incentive system throughout the AFMS will influence motivational and procedural efficiencies to generate both medical staff and patient behavioral changes. All are necessary to affect positive trends in patient satisfaction, continuity of care, ED-UCC visits, and patient outcomes. After evaluating metrics for one year, this research and analysis shows implementing AFMS performance incentives has demonstrated improvements in one of four areas—continuity of care. However, the three other areas to include patient satisfaction, ED-UCC visits, and patient outcomes, have shown slight negative trends. This research will evaluate contributing factors that have possibly impacted progress in these three areas suggesting a concurrent initiative, implemented just prior to AFMS performance-based incentives, may have negatively impacted the results. Nonetheless, all four incentives should be monitored for at least two full years before making a definite decision. Supporting analysis, more about implementation and recommendations are outlined in the following pages.

At the heart of an all-volunteer force is a contract between the United States of America and the men and women who serve in our military: a contract that is simultaneously legal, social, and indeed sacred. That, when young Americans step forward of their own free will to serve, they do so with the expectation that they and their families will be properly taken care of...

Former Secretary of Defense, Robert M. Gates
Remarks at the Wounded Warrior Summit
October 20, 2008

INTRODUCTION

To fulfill the contract to which Secretary of Defense Gates refers, the Air Force Medical Service (AFMS) vision centers on providing “World-Class Healthcare for Our Beneficiaries Anywhere, Anytime.”¹ To carry out this vision, focus should be placed on the health and well-being of the warfighter, their families, and other eligible beneficiaries through quality and preventive healthcare. This focus helps build a medically-ready force, healthy families, and greater resiliency throughout the entire Military Health System (MHS) population. Furthermore, to decrease per capita patient costs and make healthcare more affordable and sustainable, the AFMS should identify and implement continuous process improvements, eliminate waste, eradicate redundancy, and operate more efficiently. One mechanism to facilitate these improvements is through performance-based incentives.

Performance-Based Incentives

The objective behind a performance-based incentive system is to stimulate efficiencies by rewarding positive behaviors and proven best practices. This system should then generate consistent processes to decrease costs, improve and sustain population health outcomes, and increase patient satisfaction. Throughout the private sector, medical facilities have demonstrated efficiencies, improved outcomes, and decreased healthcare costs upon implementing

performance-based incentive systems—all vital pieces to the healthcare reform puzzle. Likewise, if performance-based incentives have been proven in the private sector, then implementing a comparable system throughout the AFMS should produce similar improvements for the warfighter, their families, and other eligible beneficiaries. Figure 1 below depicts the focus elements targeted for improvement in what the DoD MHS defines as the Quadruple Aim.² These include: Readiness, Experience of Care, Population Health, and Per Capita Cost.



Figure 1. The Quadruple Aim

(Reprinted from Brig Gen Mark A. Ediger, 4 November 2010 - *Continuous Process Improvement In Air Force Healthcare*, 17.)

A problem/solution framework is used for this research with the objective of determining whether performance-based incentives will answer the question: What effects do performance-based incentives have on patient outcomes, clinic efficiencies, and a better healthcare experience for the warfighter, their families, and other eligible beneficiaries? To arrive at a conclusion and offer the Air Force Surgeon General and AFMS direct evidence for implementing performance-based incentives, this research will provide a range of background topics. First, the research assesses the dollar impact of the healthcare cost dilemma, recent legislation to counter cost deficits, effectiveness of both monetary and non-monetary incentives, and whether the US measures up when comparing healthcare costs to patient outcomes. Then, a different, potentially unfavorable, perspective will outline the consequences if medical care restrictions are taken to the extreme followed by results of incentive model successes achieved in the private sector and at other military treatment facilities (MTF). Next, the problem of accomplishing and sustaining

the AFMS strategic vision and priorities are discussed, along with synchronizing these elements with MHS goals and contributing factors. Additionally, performance metrics, targets, and supporting medical informatics data for as many as 32 MTFs collected over the past year are analyzed and reported. Finally, a summary concludes with the way ahead and provides recommendations to continue monitoring performance-incentive metrics for at least two full years to determine if incentives are positively impacting escalating costs and successfully making strides toward reforming the AFMS. If so, a win-win solution will exist for both the AFMS and the US taxpayer.



BACKGROUND

Dollars and “Sense”—the DoD Healthcare Cost Dilemma

If it isn’t clear why healthcare reform is needed, maybe one question to pose is, “What is a contributing factor preventing the DoD from funding weapon system repair and replacing its aging aircraft fleet?”

One reason is escalating healthcare costs for its nine and a half million eligible beneficiaries. To understand the importance of DoD healthcare reform, one should first understand the dollars and “sense” dilemma. The Fiscal Year 2010 *TRICARE Report to Congress* recently outlined increases in workload, beneficiary demographics, access to medical care, and cost trends as reasons for this growth, as well as increasing medical rates and fees. The DoD MHS operates under a \$49 billion programmed budget—an approximate ten percent growth since 2007. This amount includes a total of \$6 billion attributed to growth in private sector medical expenditures.³ Accordingly, over the past six years, the Total Obligation Authority for the DoD Unified Medical Program has increased two percent.⁴ Within the AFMS, healthcare costs increased 14 percent from 2007 to 2009, while healthcare purchased in the private sector for DoD beneficiaries increased 23 percent.⁵ Similarly, the number of outpatient visits and procedures increased 17 percent from 2007 to 2009.⁶

Legislation to Counter Healthcare Cost Deficits

Congress has recently taken several actions to pass laws incentivizing providers as a means to counter healthcare costs and reconcile deficit medical budgets. Below are a few examples:

2005 – Senate passed bill instituting value-based purchasing through incentive payouts.⁷

2005 – Ways and Means Health Subcommittee established quality/efficiency measures introducing Medicare Value-Based Purchasing for Physicians' Services Act.⁸

2006 – Congress implemented legislation linking payments to quality reporting system and introduced the Tax Relief and Health Care Act.⁹

2010 – President Obama signed a Five-Phase Health Care Reform Bill enabling children to remain under parent insurances until age 26 and providing Medicare recipients rebates.¹⁰

With President Obama's Health Care Reform Bill extending to 2018,¹¹ there is no near-term solution in sight. This is only the beginning and more Federal laws are likely to follow responding to the healthcare dilemma. This unfortunate situation also sets the stage for explaining why more efficient medical operations are necessary and decreased per capita costs are critical—a state of affairs which performance-based incentives could improve.

Monetary and Non-Monetary Incentives

Are monetary incentives the most effective reward? Maybe not, since studies and real-world experiences have shown that monetary incentives can sometimes encourage erroneous behaviors. For example, teachers within the education industry have actually been identified cheating on state-sponsored tests. This unethical behavior is driven by financial incentives to improve student test scores. However, rather than inflict stringent, unreachable test requirements overwrought with salary and position pressures, the proper motivation would be to implement initiatives and methods that promote educational excellence and improve student achievement.¹²

Some may contend similar situations could result when implementing performance-based incentives within the AFMS. However, federal laws mandate pre-established salary amounts for active duty military and most general schedule (GS) employees, making it illegal to entice DoD

employees with higher salaries. Outside of regular rank and grade increases, overtime and specialty pay, and grade-related bonuses or performance awards, active duty and civilian employees typically cannot be paid or “incentivized” with a higher salary. There are, however, financial incentive concepts being considered by DoD that are similar to those in the private sector called ‘funding’ or ‘incentive’ pools. This concept involves a portion of an entity’s annual budget being withheld from initial allocations for purposes of a future ‘payout’ within the same funding year if the incentive is in fact earned. Following this concept, when a performance metric(s) or target(s) is met, exceeded, sustained, or improved upon, a specific incentive ‘payout’ is awarded. In the private sector, a provider, hospital, or clinic receives the payout directly in the form of an insurance payment or additional compensation. However, when applying this concept in a military setting, the incentive ‘payout’ resembles a supplemental allocation that can be used to acquire additional personnel (e.g., contractor medical staff) or purchase medical equipment.

On the other hand, non-monetary incentives have also been shown to be effective. For instance, a 2010 survey assessing whether financial incentives drive company performance revealed individuals often show an even greater desire for: 1) positive reputation, 2) appreciation, 3) work, and 4) top assignments—all forms of non-monetary rewards. According to this survey, “financial rewards actually ranked low—ninth out of ten factors.”¹³ For these reasons, a military setting is an ideal area to also institute non-monetary incentives or rewards to promote process improvements and efficiencies. For example, non-monetary rewards such as major education and training opportunities or leadership visibility at national conferences can build reputations and legacies.¹⁴

To balance and prevent the potential for driving undesired behaviors, one vital metric to include in any incentive program is patient satisfaction.¹⁵ This metric will ensure outcomes reflect an optimal healthcare experience instead of profit margins. It will also specifically express a patient's viewpoint about the level of treatment received. Further, this measurement confirms the MTF is truly providing patient-centered, customer-focused healthcare—something difficult to falsify. For the reasons outlined above, it is important to incorporate a balance of both monetary and non-monetary rewards when implementing an incentive program, regardless of whether a military or private sector setting.

How Does US Healthcare Measure Up?

The Commonwealth Fund Commission gave the US a general health system score of 66 percent (on a scale of 1-100; 100 representing exceptional performance).¹⁶ The Commission commented that since US healthcare expenditures are double that of other countries, one would expect the US to have exceptional patient outcomes.¹⁷ However, that is not the case and outcomes do not correlate to these high expenditures. The following table outlines US rankings among the 193 member states according to 2011 World Health Organization statistics in a variety of healthcare expenditure and outcome measures.

Ranking		Health Expenditure	Ranking		Healthcare Outcome
2000	2008		2000	2009	
3rd	1st	% of Gross Domestic Product	25th	28th	Life Expectancy
12th	5th	% of Total Government Expenses	34th	42nd	Infant Mortality
1st	4th	Per Capita Total Expense	41st	47th	Female Adult Mortality
7th	15th	Per Capita Government Expense	37th	44th	Male Adult Mortality

Table 1. US Health System Ranking.¹⁸

Political barriers such as fearing disruption of institutions, habits, beliefs, and income streams, rather than technical issues, prevent successful US healthcare system integration.¹⁹ This further creates obstacles or restrictions to healthcare access, making it difficult for patients to acquire adequate and/or quality healthcare. Conversely, improving patient outcomes and population health in an effort to decrease costs threatens the current status quo within the U.S. healthcare system. However, this threat is actually a greatly-needed step in the right direction. A “more-is-better” mentality must change in both the minds of patients and healthcare professionals in order for the status quo cycle to be altered.²⁰ A performance-based incentive system can facilitate this change.

A Different Perspective

If taken to the extreme, restricting access to medical care can also cause patients to not get proper and/or adequate healthcare. This occurred in cases with some health maintenance organizations and case managers overly scrutinizing patient care utilization. The National Committee for Quality Assurance reported between 42,000 and 79,400 Americans die unnecessarily because they received less than optimal healthcare.²¹ Nonetheless, if escalating costs are not brought under control in an efficient and effective manner, fewer and fewer people will be able to afford medical care, further sending the US (and DoD) healthcare systems into a deeper financial predicament.

One way to prevent this situation is to improve healthcare strategies and identify efficiencies leading to more affordable health care. For example, performance-based incentives and reward systems within healthcare arenas are moving to the forefront in several countries such as the United Kingdom and becoming more popular throughout the US. “As of 2005, 75 percent of all

US companies connect at least part of an employee's pay to a performance measure (e.g., the National Security Personnel System—which was initially designed to give higher ratings to those exhibiting exceptional performance). In healthcare, over 100 private and federal pilot programs are underway.”²²

Incentive Model Successes

Doctors at the Mayo Clinic, one of the world’s largest medical group practices operating out of 70 locations, provide healthcare to more than half a million patients per year.²³ This well-renown facility proposed reimbursing and rewarding hospitals for better ‘value’ rather than better ‘performance’ to generate improved patient outcomes and efficiencies at reduced costs. Studies revealed the Mayo Clinic’s focus centered on rewarding providers who produced higher patient satisfaction and better outcomes. For example, one study focused on the common pay-for-performance model while another conducted a value analysis by comparing four hospitals in the areas of: mortality, patient satisfaction, and expended cost. The study recommended the one hospital producing better patient outcomes at a lower cost should be rewarded while the other three should have payments “withheld to compel those facilities to make changes to improve outcomes and reduce costs.”²⁴ The Mayo Clinic also believes incorporating incentives within the healthcare system will encourage providers to make more conscious decisions when ordering tests and less likely to order expensive, unnecessary tests. The study’s general premise suggests incentive rewards for ‘value’ stem from evaluating quality and cost versus paying for performance which focuses on inputs and processes.

Additionally, the US Army implemented performance-based adjustment models (PBAMs) at its MTFs in 2007 to track workload productivity, adjust budgets, and support reward/incentive

practices. However, no results were published on whether the PBAM model was effective and achieved the stated objectives. Therefore, US Army-Baylor University graduate students performed a study to examine the effects of PBAM on primary care clinic^a efficiency over a 72-month time span with incentives being implemented at the 36-month point.²⁵ At the time of this 2007 study, neither the Air Force nor the Navy had implemented a PBAM. However, all three services possessed standardized data sources which facilitated a comparative analysis using empirical and conceptual models. The study's hypothesis proved that PBAM, implemented at US Army MTFs, had a positive effect on primary care clinic efficiency. The study also identified factors such as leadership priorities and staff satisfaction could also be contributing factors for the positive effect. The study recommended that in addition to relative value units,^b assigned and available manpower, detailed cost, time reporting, and expense data should also be evaluated.²⁶ This study confirmed much of the data not included in the Army study was relevant and could lead to more definitive results.²⁷

^a Primary care clinics consist of family practice and pediatric clinics.

^b Relative value units represent non-monetary numeric values for physician expertise, time, and resources expended to provide services.

THE PROBLEM

Our strategy is not about the future – it is about the future of decisions we make today.

Peter Drucker
As quoted in the Summer 2008
Military Health System Strategic Plan

AFMS Strategic Vision and Priorities

The AFMS has surmised that processes need to change to successfully achieve its strategic vision and priorities, “Readiness, Better Health, Better Care, and Best Value.”²⁸ This requires MTFs and patients to understand the measures that drive behavioral changes. Thus, the concepts for essential healthcare reform: access to care, quality care, and cost of care, are analogous to a three-legged stool. Without the stability of all three legs, the stool will not withstand the weight and measures of the healthcare delivery system. This delivery system includes the items shown in Figure 1 above which include: 1) a medically-ready force, 2) a patient-centered health care experience, 3) preventive population health, and 4) value-based care. All four items, particularly the latter, must focus on eliminating misused therapies, overused diagnostic tests, and unnecessary office visits and admissions. To better contain costs, performance-based incentives need to properly align and call attention to certain focus groups. Not only health care providers, through adherence to evidence-based health care guidelines to prevent unnecessary procedures and treatment, but also beneficiaries through healthy behaviors at home and self-management of chronic illnesses.²⁹

AFMS Goals

The AFMS goals align directly with the MHS goals to match “the right patient, to the right provider, at the right time, at the right place.”³⁰ Another goal is to minimize costs to the DoD by recapturing care within the MTF if capability (e.g., required medical skill) and capacity (e.g., available appointments) exist rather than refer medical care to the private sector. Furthermore, nobody ever wants to be ill or injured, but when an illness or injury does occur, patients desire timely access to medical care. Patients also prefer to be seen by their own assigned physician or someone within their healthcare team who is familiar with their medical history. When, and if, a patient is not able to make an appointment within a timely manner, some either have no choice or make a conscious decision to present to an ED or UCC for treatment. During an ED-UCC visit, medical care is typically not provided by a physician familiar with their medical history and often results in repeated, redundant medical tests. Moreover, when a patient sees a provider unfamiliar with their medical history, timely health screenings or exams may be overlooked which, in the long-term, adversely impacts patient health and outcomes. Above all, this type of healthcare results in increased costs to DoD and the US taxpayer.

Contributing Factors

Medical Home—Family Health Initiative. In 2008, after experiencing several years of difficulties with provider retention, staff recruiting, decreasing ancillary support staff, and stagnant productivity and health prevention, the AFMS implemented the Family Health Initiative (FHI). The FHI served as the hopeful solution to spotlight effectiveness and stimulate improvements literally following a “Medical Home,” patient-centric concept. This model promotes quality measures, an enhanced patient experience, physician-led teams, and

information management and technology (IM/IT) for reporting patient outcomes—all support proactive preventive healthcare.³¹ This initiative is best depicted in Figure 2.



Figure 2. FHI: Building the Medical-Home

(Reprinted from Lt Col Timothy J. Kosmatka, 19 January 2010, *FHI Implementation: The Road to a Medical Home*, 2 & 8.)

The underlying premise of FHI follows a “team” concept focused on assigning patients and entire families to a specific healthcare team rather than a specific “provider.”³² This premise also optimally aligns with the deployment requirements for AFMS personnel to provide, “Trusted Care Anywhere.”³³ A team concept allows patients and families to continue receiving uninterrupted medical care if one provider within the team deploys. It isn’t surprising the essential metric being measured during 2008-2010 became continuity of care. This is because the AFMS believes if a patient receives treatment from a member of their own medical team, versus someone outside their team; a patient will encounter a better healthcare experience, have better health outcomes, and avoid presenting to an ED-UCC—all which decrease healthcare costs.

However, along with the Medical-Home team concept come realignment of patient-to-provider ratios. Specifically, prior to FHI implementation, patient-to-provider ratio averaged 1500:1, whereas after FHI the ratios decreased to 1250:1 on average.³⁴ This decrease of assigned patients increases the likelihood a patient will be able to see their own provider or someone within their healthcare team. Still, smaller numbers of patients assigned to a team also creates a

problem that fewer patients can enroll to an MTF. Therefore, unless more providers are recruited, hired, or assigned to absorb these extra 250 patients, more patients are released to the network to seek care by a private sector medical provider. This higher expense to the DoD contradicts the Quadruple Aim model to decrease per capita costs (Figure 1). Also, as a retention-based concept, FHI promotes reducing the number of daily appointments to a minimum of 18.³⁵ This enables schedule flexibility for half of the healthcare team to see patients in the morning; the other half to see patients in the afternoon ensuring a member of the healthcare team is in clinic all day. In essence, this capitalizes on shared resources and provides a minimum of 36 total appointments per day. However, this reduced number of daily appointments could adversely impact access to care.

It is important to understand the basic premise behind FHI as well as the phased implementation plan. By fiscal year (FY) 2010, 15 MTFs implemented FHI and another 17 in FY 2011 bringing the total to 32 MTFs.³⁶ Also, beginning in the last quarter of FY 2010, as those MTFs implemented FHI, they also incorporated performance-based incentives which the AFMS is currently piloting. Since both initiatives involve healthcare impacts for patients within the same types of clinics (Family Medicine), it seems appropriate to also implement performance-based incentives concurrently. Moreover, the decision to incorporate FHI and performance-based incentives at the same time may have been an endeavor to guarantee FHI's success as a solution to the AFMS quandary of escalating healthcare costs. Nonetheless, as noted in the analysis below, FHI, as well as several additional contributing factors outlined in subsequent paragraphs, may very well be the reason why performance-based incentives have proven successful in some areas but not in others.

Economics—Simply Put: Supply and Demand. The second contributing factor impacting success or failure of performance-based incentives experienced by both medical and operational forces is Operations Tempo. When healthcare provider shortages exist, medical personnel are deployed, or away from the normal duty station, fewer appointments are supplied and smaller numbers of patients can be treated. This causes excess medical demand to be referred to the private sector. Also, when the economy is in a recessionary period (the current situation), the population seeks less expensive medical care—that provided by the AFMS. Both of these economic issues impact access to medical care which, increases overall healthcare costs.

Patient Demographics. The third contributing factor is patient demographics. An article written on behalf of the Commonwealth Fund Commission on a High Performance Health System outlines the following.

The inaugural 2007 *State Scorecard* states where one lives within the US makes a difference with regards to access to care, quality of care, and experiences with healthcare providers. Similarly, the 2009 *State Scorecard* paints a picture of healthcare systems under stress. In 2009, Vermont, Hawaii, Iowa, Minnesota, Maine, and New Hampshire led the nation as the top-ranked states, ranking within the top quartile in a majority of indicators. Conversely, ten states, ranking in the lowest quartile in both 2007 and 2009, include Tennessee, Alabama, Florida, Kentucky, Texas, Nevada, Arkansas, Louisiana, Oklahoma, and Mississippi.³⁷

The conclusion drawn from the above information is that all ten of the lowest ranking states are located in the southern half of the US. Correspondingly, certain areas of the country, typically the southern states, consist of a higher concentration of older-aged patients. Figure 3 illustrates age distribution of the US population for various regions throughout after the 2010 Census.³⁸ The first chart shows general population totals for under and over age 55; the second distinguishes the population over age 55. Both charts depict an obviously higher population in the south regions for all age groups, but particularly for ages 65-74.

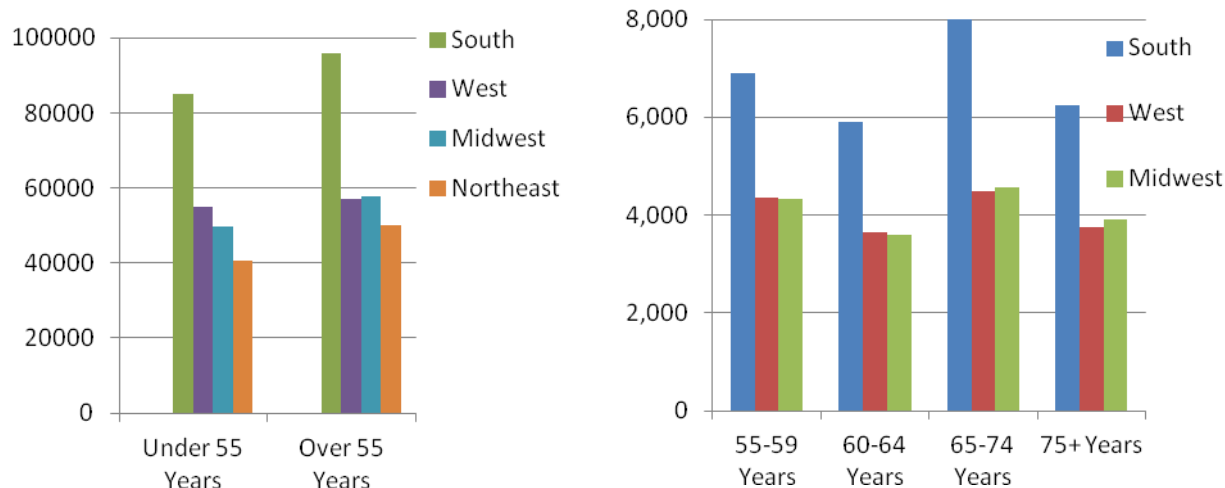


Figure 3. Age Distribution of the US (Numbers Represented in Thousands)
 (Adapted from the US Census Bureau, *Age Data of the US: The Older Population in the US: 2010*)

These illustrations are important to introduce the premise that older-aged populations tend to have more complex health concerns or co morbidities, which consist of a combination of one or more medical conditions such as high cholesterol, high blood pressure, and/or diabetes.³⁹ Patients with co morbidities often possess higher acuity medical situations generally requiring increased visits and longer appointment durations. Thus, the potential exists for MTFs located within regions where younger-aged patients reside (e.g., the northern states) to have populations with better patient outcomes. Furthermore, when dealing with military-specific demographics, younger-aged populations generally reside overseas.

Additionally, MTFs in the north may also be able to see more patients per day, month, and year than MTFs in the southern regions. This increases access to care and may prevent patients in the northern region from seeking ED and UCC visits—all reveal greater opportunities to decrease per capita costs for these specific regions. This patient demographic perspective will be analyzed more closely in the next section—The Solution.

THE SOLUTION

Test and Evaluate

Due to proven process improvements and efficiencies in the private sector, and in an attempt to counter MHS inefficiencies, the TRICARE Management Activity (TMA) is also testing a pay-for-performance (P4P) plan during FY 2011. This test, being conducted at seven Army, Navy, and Air Force MTFs; measures and evaluates six criteria associated with the Quadruple Aim (see Figure 1 above).⁴⁰ Similarly, the AFMS agrees that establishing targets for certain evidence-based criteria, measuring results, and providing performance-based incentives for meeting these targets could improve current levels of performance. The AFMS also believes incentives could stimulate efficiencies, and generate consistent and optimal practices that could sustain thresholds and continue into the future. Therefore, during the fourth quarter of FY 2010, the AFMS began concurrent studies for primary care clinics at several additional MTFs.⁴¹

Metrics and Targets

The AFMS believes the following four metrics will generate decreased costs and have categorized a level of importance for each metric. First and foremost is continuity of care for the basic reason: seeing one's own provider, who is familiar with the patient's medical history, will more than likely facilitate success in the other three metrics. It is believed as this metric improves others metrics will follow. The second important metric is improved patient outcomes, followed by decreased ED-UCC visits, then patient satisfaction. Patient satisfaction is extremely important, but the fact remains: patient satisfaction does not directly correlate to decreasing per capita costs as much as the other three metrics. The following table outlines the four metrics measured, corresponding targets, and a brief description of each.

Metrics	Targets	Description
Patient Satisfaction (On a scale of 1-5; 5 being high satisfaction)	95%	Average of five questions related to the following aspects of care: 1) Ability to see an assigned provider when needed. 2) Satisfaction level of care received. 3) Satisfaction with management of healthcare needs. 4) Satisfaction level of provider seen. 5) Satisfaction with how medical condition and treatment was explained in a way the patient could understand.
Continuity of Care	90%	Average time patients see their own provider or assigned healthcare team.
ED-UCC Visits/100 patients/month	<3 visits	Total monthly visits at either an MTF or private sector Emergency Department or Urgent Care Center divided by 100 (patients).
HEDIS**	4	Average composite scores for 8 various healthcare elements. A maximum possible score of 5 for each item to include diabetes and cholesterol screening/control; colorectal, cervical, and breast screening; and asthma medication control.
**HEDIS—Healthcare Effectiveness and Data Information Set, is a standardized tool used by healthcare entities to measure and report certain aspects of care such as patient health screenings.		

Table 2. AFMS Metrics and Goals.⁴²

Figure 4 illustrates this data in a similar visualization:

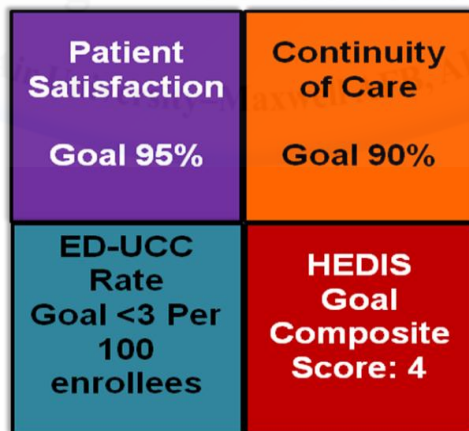


Figure 4. AFMS Metrics and Goals

(Reprinted from Brig Gen Mark A. Ediger, 4 November 2010 - *Continuous Process Improvement In Air Force Healthcare*, 19.)

Based on results and data analysis throughout FY 2011, the MTFs exhibiting improved and sustained results will be provided performance-based incentives to include recognition and rewards such as:

- Financial payouts to fund additional contract personnel or equipment.
- Education and training opportunities at prime locations.
- Publicizing performance.
- Visibility at leadership and MHS conferences.⁴³

The AFMS anticipates improved outcomes and positive results will continue well into the future with the overall objective of achieving decreased per capita costs and sustainable healthcare.

Results

In collaboration with the Air Force Medical Operations Agency, Clinical and Business Analysis Branch, data collected during the pilot study for analyzing performance-based incentives results was provided for this research project. Data for each of the four metrics: Patient Satisfaction, Continuity of Care, ED-UCC, and HEDIC were analyzed and reported using two separate figures as follows.

Figures A. The first figure for each of the four metrics provides results for the original 15 MTFs that implemented performance-based incentives during the fourth quarter of FY 2010. This group of 15 MTFs is considered a beta or control group and provides the most representative, long-term results (mauve colored bar). Each Figure A also outlines quarterly results for all the other participating MTFs that implemented performance-based incentives throughout the four quarters reviewed (blue colored bar). Since the initiative followed a phased approach, a legend outlines the total MTFs implementing in each quarter. These two data elements were analyzed and reported separately because initial data spikes often occur at the onset of initial implementation followed by a leveling period. Therefore, these marked increases could impact results of other MTFs that previously implemented incentives and may have

already entered a leveling phase. Each Figure A also provides a red goal line, a black trend line, and an annotation clarifying if the upward or downward trend is “good” or “bad” since trend direction correlates to a positive or negative result.

Figures B. The second figure for each of the four metrics provides results by Patient Demographic Region. It was previously outlined where one lives within the US makes a difference with regards to healthcare. It was also discussed typically northern states, with younger-aged populations, may tend to have better patient outcomes. Therefore, Figure B for each metric is intended to prove or disprove this assumption. In addition to a patient demographic region breakout, Figure B also provides three separate breakouts. First, the FY 2010 fourth quarter implementation period or baseline quarter (blue colored bar). Second, FY 2011 first through third quarters averaged for the original 15 MTFs (red colored bar). Then, FY 2011 first through third quarters averaged for all MTFs regardless of when performance-based incentives were implemented (green colored bar). These multiple breakouts are provided due to the same reasons explained in the prior paragraph.

Patient Satisfaction.

Figure 5A. As illustrated below, analyzing one year (four quarters) of patient satisfaction metrics reveals an overall average of 92 percent compared to a goal of 95 percent. Throughout the four quarters, there is a slight unfavorable, downward trend. However, as stated previously, it is believed that patient satisfaction ties closely to continuity of care (see Figure 6A below) which actually shows a favorable upward trend. Also, as previously mentioned, patient satisfaction is extremely important, particularly when implementing a performance-based initiative because this metric specifically expresses a patient’s viewpoint about the level of customer-focused treatment

received. Nonetheless, this metric does not correlate directly to decreased costs. Therefore, an adverse result for this metric does not constitute a recommendation to implement or discontinue performance-based incentives.

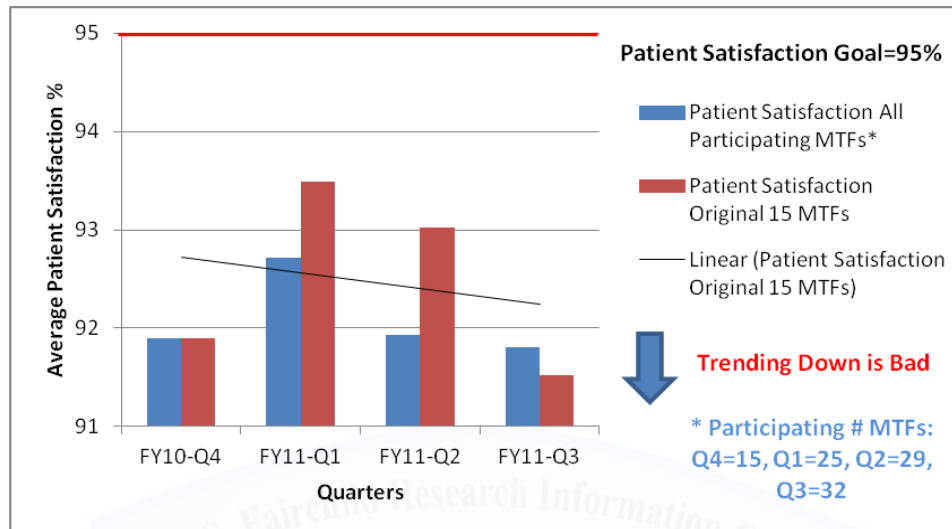


Figure 5A. Patient Satisfaction (by Quarter)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

Figure 5B. The demographic figure below shows the south region actually scored a 93 percent average for patient satisfaction—second only to the west region with 93.4 percent. The northeast scored the lowest, with an average of 88.9 percent, followed by the Midwest with 91.9 percent. However, as already mentioned, although scoring high in this metric has no direct correlation to decreasing costs, it provides assurance patients in the south region are fairly satisfied with AFMS healthcare services while patients in the northeast are not as pleased.

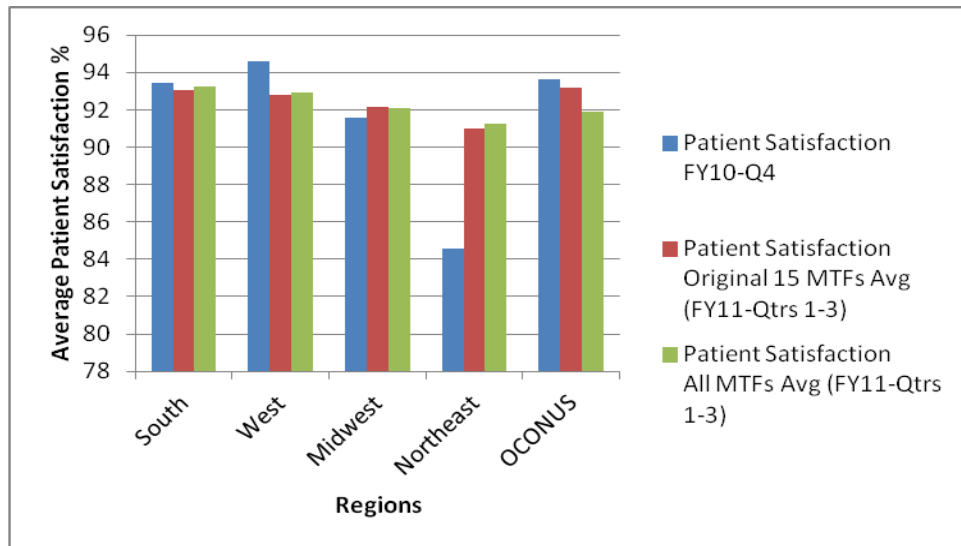


Figure 5B. Patient Satisfaction (by Patient Demographic Region)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

Continuity of Care.

Figure 6A. As mentioned previously, continuity of care and seeing one's own provider takes precedence over all other metrics in level of importance. This is because the other metrics, particularly patient satisfaction and patient outcomes (HEDIS), should increase as continuity of care improves. Figure 6A below illustrates a steep upward positive trend. Continuity percentages began low at 66 percent. However, analysis for the last three quarters discloses a 20 percent increase climbing to an average of 86 percent—nearly achieving the goal of 90 percent. Continuity of care has improved dramatically and represents a correlation that performance-based incentives, facilitated by the Family Health Initiative (FHI), are making a positive difference. Likewise, over time, this metric should correlate to decreased costs as cited in the prior paragraph.

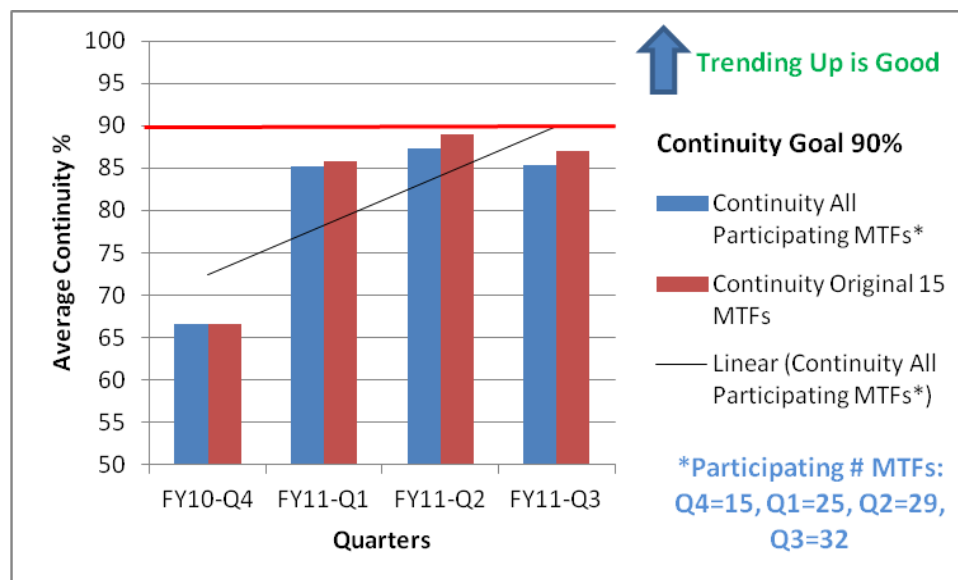


Figure 6A. Continuity of Care (by Quarter)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

Figure 6B. The demographic figure below for continuity of care shows the south region has the lowest percentage averaging 76.6 and reveals the second least improvement over the four quarters; the west region has slightly lower improvement. However, the region representing Outside the Continental US (OCONUS) shows the highest average at 92.8 percent and not only the greatest improvement, but also the only region exceeding the 90 percent continuity of care goal. Quite an achievement since turnaround of personnel is typically more frequent at OCONUS locations.

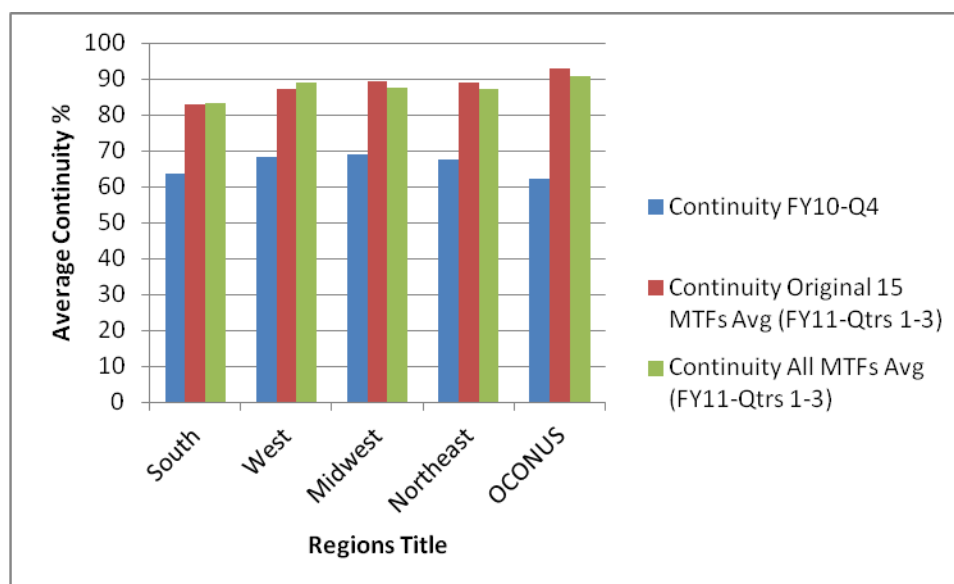


Figure 6B. Continuity of Care (by Patient Demographic Region)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

ED-UCC Visits.

Figure 7A. Analysis for ED-UCC visits shows a slight upward, but negative trend. From the onset, this metric averaged 4.8 ED-UCC visits per 100 patients and negatively exceeded the goal of three visits per 100 patients. Furthermore, although not dramatic, the trend appears to be rising in a negative direction. Unfortunately, this metric does highly correlate to increased per capita costs and could very well be an effect of decreased patient to provider ratios and fewer appointments per day created by FHI. However, it is noted during the third quarter of FY 2011, a slight decrease from the prior quarter occurred which may indicate this metric is beginning to improve. Improvements for this metric could occur by discouraging use and educating patients on the high costs associated with ED-UCC visits. Further, opening UCCs within MTFs may prevent some patients from using private sector ED-UCCs and save some costs. However, increased the use of UCCs, even within an MTF, may adversely impact continuity of care and

patient outcomes because patients are being treated by providers from the UCC and not by a provider from their own healthcare team.

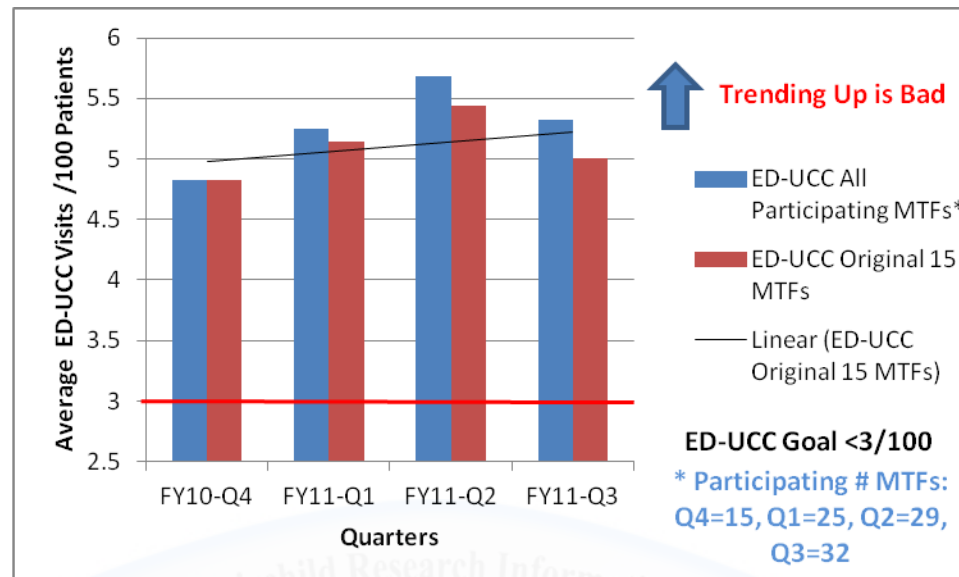


Figure 7A. ED-UCC Visits (by Quarter)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

Figure 7B. Similarly, ED-UCC use in the south region has shown a slight increase since performance-based incentives (and FHI) were implemented revealing a third quarter FY 2011 average of 5.4 visits per 100 patients—an increase of 0.5 visits per 100 patients. This region runs second to the Midwest region with an average of 5.5 ED-UCC visits per 100 patients—a slightly lower increase of 0.3 visits per 100 patients. Again, the ED-UCC increasing trend is not dramatic, but when applying mathematics, an increase of 0.5 visits equates to 50 additional ED-UCC visits per 100 patients. With ED-UCC costs averaging over \$300 per visit, an additional \$15,000 would be expended per 100 patients.⁴⁴ This may not sound like much except when considering there are nine and a half million MHS beneficiaries. ED-UCC costs add up quickly and could be put to better use elsewhere if this metric showed better results (e.g., weapon system repair and replace aging aircraft fleets).

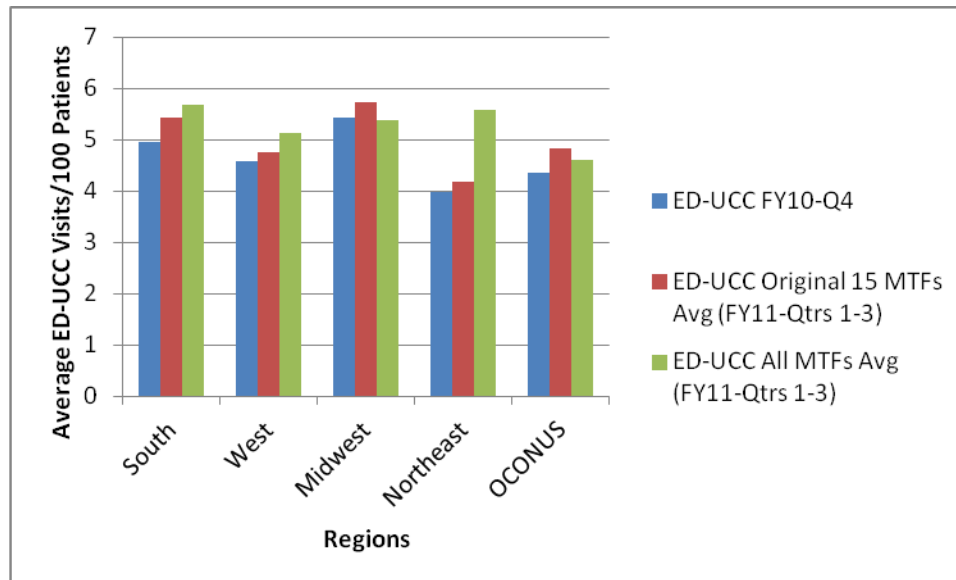


Figure 7B. ED-UCC Visits (by Patient Demographic Region)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

HEDIS.

Figure 8A. Improved patient outcomes, represented by HEDIS metrics, are the second most important factor of successful performance-based incentives as this metric directly correlates to decreasing per capita costs. Figure 8A below shows a minor downward, negative trend resulting in a slight decrease from 3.5 in FY 2010 (fourth quarter) to 3.3 in FY 2011 (first quarter). However, starting in the second quarter and more so in the third quarter, HEDIS metrics are actually beginning to increase. It is believed this metric may continue to rise as healthcare teams receive and absorb the benefits from performance-based incentives, adhere to evidence-based guidelines, and strive to educate patients on healthy lifestyles and behaviors. The HEDIS metric affects from these types of changes and adjustments will not be visible immediately, but rather over time.

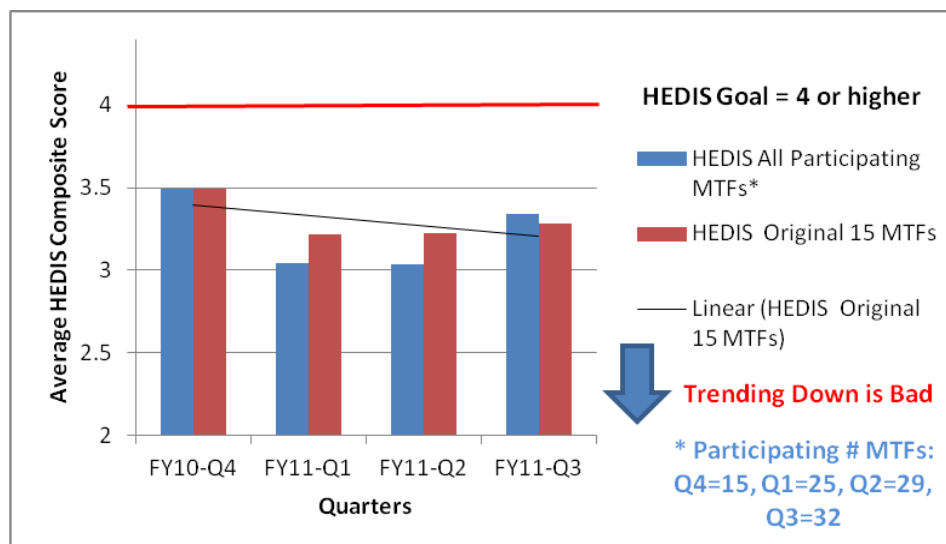


Figure 8A. HEDIS (by Quarter)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)

Figure 8B. The figure below shows the northeast region has the lowest HEDIS average of 3.1, although this region is beginning to trend positively upward. The west region shows the largest decrease in patient outcomes with an average 0.6 composite score drop from 3.7 in FY 2010 to an average of 3.1 for the three quarters in FY 2011. On the other hand, the OCONUS region has the highest average HEDIS score of 3.8. This confirms the assumption that the OCONUS region, consisting of a younger-aged military population, generally has better patient outcomes.

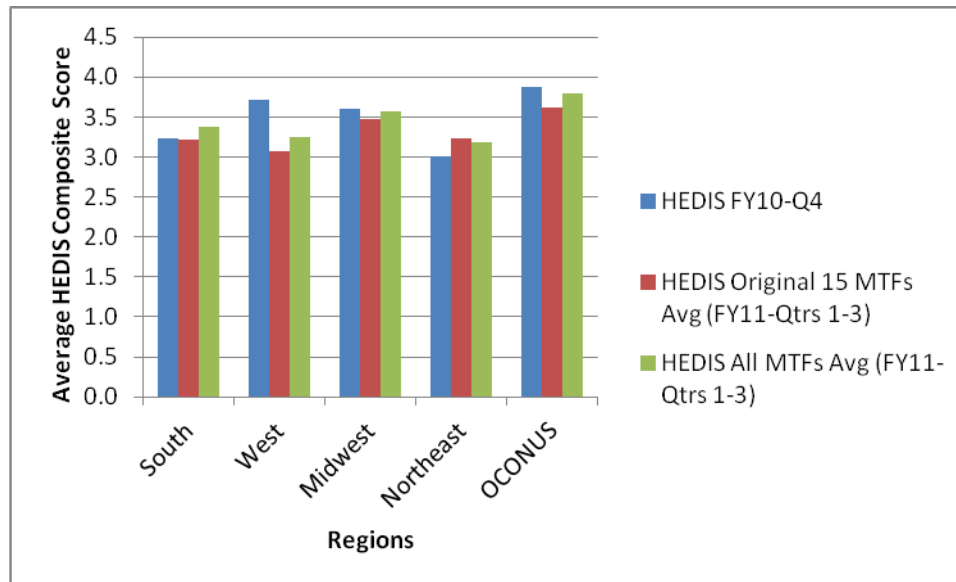


Figure 8B. HEDIS (by Quarter) (by Patient Demographic Region)

(Adapted from the Air Force Medical Operations Agency FY 2010-4th Quarter and FY 2011 1st, 2nd, and 3rd Quarters Medical Home Performance Incentive Reports)



CONCLUSION

The research explains the importance of the AFMS strategic vision, priorities, and goals to include Readiness, Better Health, Better Care, and Best Value,⁴⁵ while matching the right patients, to the right provider, at the right time, at the right place.⁴⁶ For this to be achieved, the AFMS believes necessary motivational and behavioral changes are required by both medical staff and patients to affect positive trends in patient satisfaction, continuity of care, ED-UCC visits, and patient population outcomes.

This research delved into the background of the dollar impacts surrounding the current DoD healthcare dilemma to include growth trends and percentages in recent past years. This paper provided examples of legislation responding to increasing healthcare costs and several Executive branch efforts to reconcile deficits and reform healthcare. Details also included the various types of performance-based incentives and explained which are more effective: monetary, non-monetary, or a mixture of both, and which of these are most effective in a military setting. Also, situations surrounding the nature of motivation and actions point to the fact financial incentives sometimes drive unethical behaviors when instead correct incentives should promote excellence and achievement. Statistics from the World Health Organization related to life expectancy and mortality demonstrated patient outcomes do not directly correlate to exorbitant US healthcare expenditures. Nonetheless, this research also explained that past extremes taken by health maintenance organizations and overzealous case managers can sometimes cause individuals to receive inadequate healthcare. In the long run, this leads to poor long-term health and sometimes even death.

This study outlined performance-based incentives appear to becoming more popular, not only in the US, but also other countries such as the United Kingdom. Furthermore, a “less-is-more”

rather than a “more-is-better” mentality should be implanted into the minds of healthcare staff and patients alike to influence reduced costs. Additionally, large medical groups such as the Mayo Clinic and other DoD medical services have demonstrated improved patient outcomes and efficiencies when rewards are introduced encouraging more conscious decisions and less expensive, unnecessary medical tests. Likewise, the AFMS believes performance-based incentives can facilitate changes needed to stimulate changes, promote efficiencies, and decrease per capita costs.

This research identified contributing factors can have both positive and negative impacts on whether an initiative is successful. As the research demonstrates, this may very well be the case with AFMS performance-based incentives. In particular, the concurrently implemented family health initiative (FHI) appears to have impacted continuity of care in a positive manner, but due to realigned patient-to-provider ratios and reduced appointments per day, access to care has potentially decreased resulting in a potentially increased number of patients seeking care in the private sector. Likewise, when patients are not able to obtain a needed appointment, patient satisfaction is impacted and patients may be compelled to seek care at an ED or UCC—both impacting patient outcomes in a negative manner.

Likewise, in difficult economic times, patients may also seek the less expensive care typically available within the MHS which increases demand. Further, during high operations tempo and increased medical personnel deployments, appointment supply decreases. Both supply and demand situations negatively impact access to medical care. Patient demographics were also shown to make a difference on whether certain MTFs in specific US regions have better performance-based incentive results due to population age distribution. The south region appears

to have an older-aged population consisting of potentially more complex health concerns, while the OCONUS region, with a younger-aged population, less complicated medical conditions.

After evaluating all metrics and targets and considering contributing factors for one year, research and analysis shows performance-based incentives have demonstrated dramatic improvements in the focus element deemed most important—continuity of care. A high level of importance is placed on this element because it impacts the other three elements. Moreover, continuity of care has shown a dramatic increase, likely due to FHI implementation, and appears to be sustaining and leveling near the AFMS-established goal of 90 percent. Regrettably, three other elements, patient satisfaction, ED-UCC visits, and patient outcomes, have shown slight negative trends. Specifically, patient satisfaction and patient outcomes are trending downward and ED-UCC visits are trending upward. Conversely, FHI, implemented just prior to AFMS performance-based incentives, may have negatively affected these three areas because of its potential impact on access to care.

Recommendations

More time is needed to determine long term effects for all elements, but particularly: patient satisfaction, ED-UCC visits, and patient outcomes; due in part because continuity of care is expected to positively impact these areas. Furthermore, because performance-based incentives have been in effect for only one year at 15 MTFs and less than one year at 17 others, results for all four focus elements should continue to be monitored for a period of at least two full years. A longer monitoring period is needed to determine whether motivational and behavioral changes will promote improvements and sustainable efficiencies before a definite decision is made on whether or not to continue performance-based incentives and implement throughout the AFMS.

Particularly in the case of patient outcomes and HEDIS metrics, this could take two years or even longer to recognize long-term impacts.

However, one recommendation can be made to obtain interim short term benefits. The AFMS may consider hiring contract extender providers such as physician assistants and nurse practitioners which incur a lower cost to the DoD than board-certified family physicians. These extenders could serve as a second or third provider, of a physician-managed team, treating the excess patients that exceed the 1250:1 patient-to-provider ratio imposed by FHI. This arrangement would serve several purposes. First, fewer dollars would be spent hiring extenders than referring patients to the private sector. Second, upon applying the patient demographic study results extenders hired in south regions, for the purpose of treating healthier younger patient populations, would allow board-certified physicians to focus and devote time to older patients with potentially more complex conditions. Lastly, enabling patients to be seen by someone from their own healthcare team would increase continuity of care, patient satisfaction, and outcomes while decreasing ED-UCC visits. All aspects positively impact escalating Air Force healthcare costs and address the main focus of the Quadruple Aim and this research—decrease per capita costs.

Summary

The analysis demonstrates after piloting performance-based incentives for one full year at 15 MTFs and shorter time frames for 17 additional MTFs, some motivational and procedural changes occurred that appear to have generated medical staff and patient behavioral changes. Therefore, this study illustrates and answers the research question: What effects do performance-based incentives have on patient outcomes, clinic efficiencies, and a better healthcare experience

for the warfighter, their families, and other beneficiaries. Also, this research arrives at a conclusion and provides the Air Force Surgeon General and AFMS evidence to continue implementing performance-based incentives and monitoring the effects.

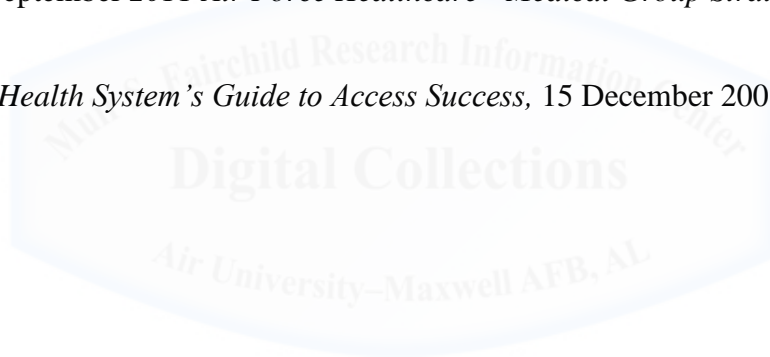


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